

# OPERATIONS HUMAN-CENTRIC TO SYSTEM-CENTRIC



URS LAUENER CHIEF OPERATION OFFICER

The ATM industry used to be very conservative and slow moving. Capacity was raised by pumping additional resources (ATCOs) into the system and re-shaping the sectors. This system has reached its limits, says Urs Lauener, skyguide's chief operating officer (COO). A much higher flexibility in the way ATCOs are trained and deployed must be achieved, enabling any ATCO to work any piece of airspace from any work position. Location independence will allow for quick reactions to changes in capacity and customer needs.

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## SKYGUIDE **Why has skyguide launched this transformation process?**

**URS LAUENER** The way of providing ATM services has not much changed over decades. The answer to the lack of capacity and inefficient handling of traffic-flows cannot be the usual manner of just adding more ATCOs into the system and re-shaping sectors. ATCO resources are scarce and expensive; their training takes a long time and is very static. We must reach a much higher flexibility in the way we train and use ATCOs in order to better align to customer's needs.

## **How will this transformation process impact operations?**

**UL** Today's shortcomings can only be overcome by adding more technology. ATCO jobs will have to be shifted from being human centred to system centred, from Air Traffic Control to Air Traffic Management. Today, ATCOs are trained for a defined number of sectors. In the future, location independence will allow us to react quickly to unforeseen changes in capacity needs. This requires a system enabling us to refrain from the geographical ratings and shift to system ratings, thus enabling almost any ATCO to work any piece of airspace from any work position. As a result, ATCO training will become more standardized and shorter, and it will allow us to provide more flexible services at lower cost.

### **What will be the most difficult part of the transformation?**

**UL** We have to take the ATCOs along. Today they are used to intervening on almost every flight, but in the future they will have to change their work methodology: this requires a change of mindset. The transition from Air Traffic Control to Air Traffic Management will be demanding. The ATCO job per se will change and ATCOs will have to be prepared for step changes in terms of tools to be used and procedures applicable. The workforce of the future demands a different type of personality. The selection of this new type of ATCO needs to start very soon. The challenge is to ensure a safe and efficient service delivery every day while implementing the transition into this new world. We aim for a smooth transition, not a big bang. We must carefully define the human role in the system and avoid repeating the mistakes made by airlines and aircraft manufacturers when changing the human-machine interface.

### **Have you started elaborating and implementing changes in the ATM work methodology already?**

**UL** Yes, it has started. We are permanently trying to improve the system, especially at the Zurich airport, where it is very complex. Becoming “strippless” in the Radar Centres, we have ceased to deliver information on paper, resulting in a remarkable capacity increase. In parallel, we have introduced additional safety nets, as we shall not only increase capacity, but also safety. New systems will be implemented, intended to support the ATCO in doing their job, one of which is CORA (Conflict Resolution Advice) as part of the VC programme. However, in whatever we do, it remains vital that the ATCOs have full trust in the new system.

### **Can Switzerland do this on its own?**

**UL** For the first time ever, we have an operational strategy which we will now start to implement. Question is, are we now dependent on our neighbours? Yes and no. There are some major adaptations we can and shall do on our own in order to improve the provision of services, even if we are the only ones doing it. For example, I am talking of one sky by one system, location independence etc. However, the full benefits of the future setup will only be available once the neighbouring ANSPs implement similar changes and play along the same lines.

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### **But for skyguide’s success, European initiatives like SESAR surely are primordial?**

**UL** SESAR can only be successful if it fosters the network thinking. The system is still weak when it comes to setting the right incentives. ANSPs are being incentivised for actions they take in isolation. This does not contribute to create a European network and must change. SESAR has to address the limits of the airspace capacity and the fragmentation of airspace, and to promote location independence to replace the current state where each centre is acting on its own. We have to emphasize that the success of the transformation can only be achieved if we can collaborate in a new European airspace setup. There was an attempt with FABEC, but due to sovereignty issues, the outcome was poor. The success of a new attempt lies in a European airspace architecture and Service-Oriented Infrastructure (SOI). One important case study is PJ10: SESAR members NATS, skyguide, COOPANS (LFV) and INDRA have jointly tested an initial validation exercise of a solution to change the existing operating method. The solution aims at much greater flexibility, allowing air traffic controllers to perform in a particular type of sector in any control centre across Europe. That’s the right model for the future.